

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-39 are pending in the present application. Claims 1, 13 and 22 are amended and Claims 31-39 are added by the present amendment.

Claim amendments and new claims find support in the application as originally filed, for example, in paragraphs 0006, 0007 and 0041-0044. Thus, no new matter is added.

In the outstanding Office Action, Claims 1, 2, 4-11, 13-18 and 21-29 were rejected under 35 U.S.C. §102(e) as anticipated by Harvey et al. (U.S. 2004/0045934, herein "Harvey"); and Claims 3, 12, 19, 20 and 30 were rejected under 35 U.S.C. §103(a) as unpatentable over 3, 12, 19, 20 and 30 were rejected under 35 U.S.C. §103(a) as unpatentable over Harvey.

Initially Applicants and Applicants' representatives wish to thank Examiner Chen for the interview with Applicants' representatives on October 19, 2006. During the interview the present invention and differences between the invention and the references in the outstanding Office Action were discussed in detail. Further, during the interview claim amendments to clarify that the first filtered endpoint signal corresponds to a first chemical constituent found in the process chamber and the second filtered endpoint signal corresponds to a second chemical constituent found in the process chamber. Comments and claim amendments discussed during the interview are reiterated below.

Addressing now the rejection of Claims 1, 2, 4-11, 13-18 and 21-29 under 35 U.S.C. § 102(e) as anticipated by Harvey, that rejection is respectfully traversed.

Claim 13 recites, in part,

starting said process in a process chamber;  
measuring a first endpoint signal corresponding to a  
first chemical constituent found in the process chamber;

measuring a second endpoint signal corresponding to a second chemical constituent found in the process chamber;  
determining a ratio signal from a ratio of said first endpoint signal and said second endpoint signal, said ratio signal comprises an endpoint transition;  
determining a differential signal from said ratio signal by applying a differential filter to said ratio signal, wherein said differential filter comprises a Savitsky Golay filter; and  
determining an endpoint of said process from said differential signal.

Claims 1 and 22 recite analogous features.

As discussed in the interview, Harvey describes endpoint analysis in a plasma system that uses a single endpoint signal (see Fig. 13A) and applies a differential filter to the signal.

In contrast, the claimed invention recites measuring a first endpoint signal corresponding to a first chemical constituent found in the process chamber and measuring a second endpoint signal corresponding to a second chemical constituent found in the process chamber and determining a ratio signal from a ratio of said first endpoint signal and said second endpoint signal, said ratio signal comprises an endpoint transition and a differential signal from said ratio signal by applying a differential filter to said ratio signal, wherein said differential filter comprises a Savitsky Golay filter.

In other words although Harvey describes filtering an endpoint signal, Harvey makes no mention of measuring two signals, each signal corresponding to a chemical constituent found in the process chamber.

Further, Harvey does not describe determining a ratio signal from these measured signals and applying a Savitsky Golay differential filter to this ratio signal.

Additionally, with respect to dependent Claims 31, 34 and 37 Harvey does not describe that the first filtered endpoint signal corresponds to an emission intensity of light at a first wavelength corresponding to the first chemical constituents found in the process chamber and the second filtered endpoint signal corresponds to an emission intensity of light

at a second wavelength corresponding to the second chemical constituent found in the process chamber.

Harvey makes no mention of a first and second wavelength which corresponds to chemical constituents found in the process chamber.

Further, with respect to dependent Claims 33, 36 and 39 Harvey does not describe or suggest that the first filtered signal corresponds to a first chemical constituent whose concentration decays during endpoint and the second filter signal corresponds to a second chemical constituent whose concentration rises during endpoint.

Clearly as Harvey does not describe or suggest a first and second chemical constituent as discussed above, Harvey does not describe or suggest that first filtered signal corresponds to a first chemical constituent whose concentration decays during endpoint and the second filter signal corresponds to a second chemical constituent whose concentration rises during endpoint.

Accordingly, it is respectfully submitted that independent Claims 1, 13 and 22 and claims depending therefrom patentably distinguish over Harvey.

Consequently, in light of the above discussion and in view of the present amendment the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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